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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,007	11/02/2000	Shlomo Assa	LASER1140-2	4811

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EXAMINER
PHAM, HAI CHI

ART UNIT	PAPER NUMBER
2861	

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	09/705,007	ASSA ET AL.	
	Examiner	Art Unit	
	Hai C Pham	2861	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondenc address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

FINAL REJECTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

2. Claims 10-18 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10:

- The following limitation "electronics different than the laser" at line 7 appears to be ambiguous in that it is unclear whether the above-defined electronics is different from the claimed "electronics for generating a corrected data set" recited at line 4 or it just indicates the existence of another type of laser source.

Claim 36;

- The following limitation "electronics different than the laser" at line 5 is unclear in that it is not known whether the Applicants intend to claim another type of laser source for printing the pixels.

Claims 11-18 are dependent from claim 10 above, and are therefore indefinite.

Appropriate correction is required.

Claim R jections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

4. Claims 1-33, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasebe et al. (U.S. 6,061,081) in view of Woelki et al. (U.S. 5,329,090).

Hasebe et al. discloses a scan type laser marking device and a method for printing, which comprises a laser (1) for printing an alphanumeric code (mark M being a character or a graphic form) on a product (workpiece W or object 181) moving in a direction (direction B,) the code being constructed from a plurality of pixels (the graphic form or mark having a plurality of dots) (col. 2, lines 47-62,) and electronics (drive power source circuit 2 along with the galvanometer mirrors 3a, 3b) for printing the pixels on the product in a two dimensional trace (by two-dimensionally scanning the laser beam, Fig. 10) so as to form the code on the product. Hasebe et al. further teaches the method for printing including generating a corrected data set (position correcting data) indicating the position that each pixel would occupy if each pixel was moved at the velocity of the product until the pixel is printed, and printing the code according to the corrected data set.

However, Hasebe et al. fails to teach the code being rendered by discrete marks corresponding to the pixels.

However, Woelki et al. discloses a laser-marking device for engraving marks or dimples on the surface of silicon wafers by using the pulsed radiation from a laser diode. The beam of radiation from the laser is focused into small spots on and moved across the surface of the silicon wafer to produce a pattern of marks in clusters closely positioned in a microgrid within a larger grid defining symbols or characters to be written on the wafer (Fig. 6).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Hasebe et al. with the aforementioned teaching of Woelki et al. for the purpose of inscribing easily readable marking on the product.

With regard to claims 2, 3, 5, 7-9, 11, 12, 14, 16-18, 23, 25, 31, Hasebe et al. also teaches printing the code according to the corrected data set including printing a two-dimensional trace or pixels or spots (col. 3, lines 24-27,) the laser being mounted in a housing (180, Fig. 7,) which includes an optics assembly (condenser lens 4) to focus a printing beam produced by the laser onto the product positioned adjacent the housing, the first data set indicating the positions of the spots, and the corrected data set indicating the positions that each spot would occupy if each spot was moved along with the product until the spot was printed (Figs. 3A-3D, 10.)

With regard to claims 4, 13, 19, 22, 24, 30, 32, Hasebe et al. teaches prioritizing the order in which the pixels are printed such that the pixels are printed in a direction, which is opposite to the direction which the product moves (Fig. 4A,) the pixels being

arranged in a plurality of columns and prioritizing the order which the pixels are printed including prioritizing each of the columns (Figs. 4B, 4C.)

With regard to claims 6, 15, 20, 26, 28, Hasebe et al. further teaches the housing including a printing beam exit member through which the printing beam exits the housing, and an aperture limiting the area (target area) within which the laser is able to print and the product moves past the aperture (beam outlet directed towards the object) (col. 10, lines 7-10.)

5. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasebe et al. in view of Spratte et al. (U.S. 5,175,425).

Hasebe et al. discloses all the basic limitations of the claimed invention except for the Hasebe et al. discloses all the basic limitations of the claimed invention except for the density of the pixels being changed to construct the code.

However, Spratte et al. discloses a process for marking semiconductor surfaces with a bar code that allows a high character density with a very small character height with reliability by controlling the laser output and the scanning speed.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Hasebe et al. with the aforementioned teaching of Spratte et al. for the purpose of providing a high resolution code on the surface of the object to be marked.

Response to Arguments

6. Applicants' arguments with respect to claims 1-33, 36 have been considered, and are traversed in view of the new grounds of rejection as stated in paragraph 3 above.

7. Applicants' arguments filed 08/19/02 with regard to claims 34 and 35 have been fully considered but they are not persuasive.

With regard to Applicants' arguments concerning that "Spattre's method is in stark contrast with Hasebe's method, which uses a scan type laser", the examiner respectfully disagrees. Spattre's method also uses a scan type laser for marking semiconductor wafers. Spattre's laser marking device (Fig. 3) includes a laser unit (8), lens system (21 and 22) for beam focusing and expansion, scanning unit formed by the scanning mirrors (19 and 20) and the galvanometer drives (17 and 18) for scanning the laser beam in the x and y-directions on the surface of the semiconductor wafer to inscribe marks or codes, while the semiconductor wafer can be either stationary or movable during the laser bombardment (col. 4, line 36 to col. 5, line 3). Therefore, since both Hasebe and Spattre are in the same field of endeavor and focus on similar method for marking semiconductor devices, the purposes disclosed by Spattre would have been recognized in the pertinent art of Hasebe.

Conclusion

8. Applicants' amendment, which changes the scope of each of the base claims, necessitated the new grounds of rejection presented in this Office action. Accordingly,

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

HAI PHAM
PRIMARY EXAMINER

November 15, 2002